

REMARKS

Claim Status

Claims 23, 25, 28 and 30 are now pending in the application. Claim 23 has been amended to recite the citric acid and the sodium hexametaphosphate. Basis is in the Example at page 22. All other claims are cancelled without prejudice. It is submitted that all amendments are fully supported and entry is requested.

Rejections Under 35 USC 103

The claims stand rejected under §103 over US 3,681,091 and the Grunberg article, for reasons given at pages 2-4 of the Office Action.

Applicants respectfully traverse the rejections in view of the claims as now amended.

For the record, all previous arguments in support of patentability continue to apply, but will not be repeated herein for the sake of brevity.

As the Examiner is aware, prior art must be considered in its entirety, including disclosures that teach away from the claims; **MPEP2141.02VI** (case citations omitted). Accordingly, it must again be submitted that it is counter-intuitive and, hence, non-obvious, to use an acidic beverage of the present type to treat teeth that have been eroded by acid. As will be seen from the following discussion of the Reussner, *et al.* article, it is entirely non-obvious to undertake such treatment using acidic fruit beverages that are devoid of calcium and fluoride.

At the outset, it is again noted that the claimed method for treating dental erosion that has been caused by exposure of the teeth to acid requires a particular patient population and a particular phosphate agent that is administered to such patient population at an acidic pH, none of which is explicitly or inherently disclosed by the combination of cited documents.

To the contrary, the Examiner's attention is directed to the article by Reussner, Coccodrilli and Thiessen, "Effects of Phosphates in Acid-Containing Beverages on Tooth Erosion", cited in the IDS filed February 18, 2000. As discussed in that article at page 367, column 2:

Table 2 shows that a 0.03% sodium mono-fluorophosphate supplement in a GPB mix gave a statistically significant ($P < 0.01$) 36% decrease in molar erosion score. However, monosodium orthophosphate at a level of 0.21%, sodium hexametaphosphate or sodium trimetaphosphate at concentrations of 0.15%, and calcium chloride at a level of 0.13% did not produce significant protective effects against molar erosion ($P > 0.05$). [emphasis supplied]

The authors further note, (page 369, column 1) that, MCP is rather soluble in acid beverages and does not produce the taste problem associated with sodium salts. Dietary surveys have indicated that a number of children in the United States are obtaining suboptimal intakes of calcium from their diets.¹² Therefore, from a nutritional standpoint, calcium phosphate would be more desirable than other phosphates as a beverage supplement. [emphasis supplied]

Finally, at page 369, column 2, the authors conclude that the use of sodium phosphate salts as supplements in acid beverages did not produce significant decreases in molar erosion unless they contained fluoride. [emphasis supplied]

Based on the explicit and unequivocal teachings of Reussner, *et al.*, for preventing dental erosion caused by a fruit-based beverage one would:

- Use calcium phosphate as a beverage supplement;
- Use fluoride if a sodium phosphate is employed as a beverage supplement;
- Not use hexametaphosphate.

Simply stated, Reussner, *et al.*, teaches away from all three of these key aspects of the present invention. Said another way, in light of those teachings, what would possibly induce a physician or dental professional to orally administer the present compositions to a patient whose teeth have been demineralized by acid, per Claim 23 herein?

The Examiner needs no reminder that inventing a method for producing an effective product, in the face of art which strongly suggests that such a method would produce unacceptable results, is the very antithesis of obviousness. *In re Rosenberger and Brandt*, 886 F.2d 1015, 156 U.S.P.Q. 24, 26 (C.C.P.A. 1967). [emphasis supplied]

In light of the amendments to the claims and the controlling case law, early and favorable action is requested.

Respectfully submitted,

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